

Claim Listing

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) A genetically engineered fluorescent protein comprising a fluorescent protein which incorporates by insertion a protease cleavage site into a single fluorescent protein, cleavage of said fluorescent protein at said cleavage site by a protease causing the alteration of at least one of an emission and an excitation spectra of said fluorescent protein, said fluorescent protein having SEQ ID NO: 41.

2. (Original) A fluorescent protein according to claim 1, being a green fluorescent protein.

3. Cancelled.

4. (Currently Amended) A fluorescent protein according to claim [[3]] 2, wherein said cleavage site is inserted between β-sheet pair of adjacent β-sheets are selected from the group consisting of β-sheet pairs number 9 and 10, 5 and 6, and 8 and 9.

5. Cancelled.

6. Cancelled.

7. (Previously presented) A fluorescent protein according to claim 1, said cleavage site having the sequence of SEQ ID NO: 4.

25. (Original) A fluorescent protein according to claim 1, said protease being a caspase.

26. (Original) A fluorescent protein according to claim 25, said caspase being selected from the group consisting of caspase-3, caspase-6, caspase 7, caspase-8 and caspase-9.

28. (Currently Amended) A genetically engineered fluorescent protein comprising:

a single genetically engineered green fluorescent protein having only one chromophore, said protein having a loop structure, said loop structure having incorporated therein a protease cleaving site, said loop structure positioned between

a first β sheet of said fluorescent protein and a second β sheet of said fluorescent protein adjacent to said first β sheet wherein cleavage of said fluorescent protein at said cleavage site alters at least one of an emission spectra and an excitation spectra of said fluorescent protein.

30. (Previously presented) The modified fluorescent protein according to claim 28 wherein said first β sheet and said second β sheet are selected from β sheet pairs consisting of β sheet pair 5 and 6, β sheet pair 8 and 9, and β sheet pair 9 and 10.

31. (Previously presented) The modified fluorescent protein according to claim 28 wherein said modified fluorescent protein has an amino acid sequence according to SEQ. ID NO: 41.

32. (Previously presented) The modified fluorescent protein according to claim 28 wherein said cleavage site defines a sequence according to SEQ. ID NO: 4.

33. (Previously presented) The modified fluorescent protein according to claim 28 wherein said protease is a caspase.

34. (Previously presented) The modified fluorescent protein according to claim 33 wherein said caspase is selected from a group consisting of caspase-3, caspase-8, and caspase-9.

36. (Previously presented) A fluorescent protein according to claim 1 wherein said cleavage site has a sequence of SEQ. ID NO: 4.